

**WEST CLEAR CREEK BRUSH  
MANAGEMENT PLAN**





THE STATE OF ARIZONA  
**GAME AND FISH DEPARTMENT**

2221 WEST GREENWAY ROAD  
PHOENIX, AZ 85023-4399  
(602) 942-3000 • AZGFD.GOV

REGION II, 3500 S. LAKE MARY ROAD, FLAGSTAFF, AZ 86001

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DEPUTY DIRECTOR  
STEVE K. FERRELL



February 23, 2007

Mr. Duane Coleman,

I am writing this letter in support of your Habitat Partnership Committee grant proposal for Juniper removal on the Clear Creek Ranch in Game Management Unit 5A. I appreciated the opportunity to work on this grant with the Clear Creek Ranch and the Hopi Tribe, and look forward to working collaboratively on this project. I appreciate your willingness to seek multiple funding sources for this project, such as your grant award for this project from Federal EQIP funding.

I strongly support this project as it clearly fits into habitat improvement projects defined in the Anderson Mesa Work Plan. This project is also a component of a larger landscape scale plan identified for the Clear Creek Ranch. Having a detailed plan for the Clear Creek Ranch and identifying such projects clearly shows your commitment to improving habitat quality for wildlife.

This project will open approximately over 1000 acres of identified grassland that has been significantly encroached upon by Juniper. Opening up this area south of West Sunset Mountain will increase biodiversity and biomass production, which will benefit the Anderson Mesa Pronghorn herd and both wintering Mule deer and Elk herds. In addition, the conversion of this area back to a grassland will create a new travel corridor around West Sunset Mountain for wildlife.

Thank you for your efforts on this project, and I look forward to continued collaboration on this and future projects.

Sincerely,

Garrett Fabian  
Wildlife Manager II, GMU 5A

**ARIZONA GAME AND FISH DEPARTMENT  
HABITAT PARTNERSHIP PROGRAM  
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL**

**PROJECT INFORMATION**

**Project Title:** West Clear Creek Brush Management Plan

**Project No.** 07-201

**Region/GMU:** Unit 5A

**HPC:**

**Project Type:** Juniper Reduction

**Project Description:**

To reduce Juniper density by mechanical means and bring proposed range sites back to their desired conditions for benefit of the land it's resources, wildlife, livestock.

**Wildlife Species to Benefit:** Antelope, deer and elk.

**Possible Funding Partners:** Natural Resource Conservation Service (NRCS) through Environmental Quality Incentive Program (EQIP) match. Arizona Game & Fish Dept. (AGFD) through access agreements.

**Implementation Schedule:**

**Beginning:** 6-1-07

**Completed:** 1-1-09

**PROJECT FUNDING**

**SBG Funds Requested:** \$ 29,336

**Cost Share Funds:** \$ 58,673

**Total Project Costs:** \$ 117,346

**PARTICIPANT INFORMATION**

**Applicant:** Hopi Three Canyon Ranch  
(please print)  
**Telephone:** 928-289-2601

**Address:** Hopi Three Canyon Ranch  
P.O. Box 1138  
Winslow AZ. 86047

**AGFD Contact and Phone No.**

(If applicant is not AGFD personnel) In coordination with Garrett Fabian & John Goodwin

**Coordinated with:** AGFD, NRCS, ASLD

**Date:**

**Applicant's signature:**

*Norma Clewett Ranch Manager*

**Date:**

2-27-07

**SEND COMPLETED APPLICATIONS TO:**

**Game Branch  
2221 W. Greenway Rd.  
Phoenix, AZ 85023  
mdisney@azgfd.gov**

**NEED STATEMENT/PROBLEM ANALYSIS:**

Over the years this once predominantly grass land area has been heavily invaded with Juniper. Since then much of the herbaceous perennial cover has been lost along with it's diversity. By reducing Juniper density and canopy we aim to restore the area to it's desired state. This practice will also help to expand desired conditions for the Anderson Mesa Pronghorn Antelope project.

**PROJECT OBJECTIVES:**

Our objectives are to:

- Increase livestock distribution to facilitate a planned livestock grazing system ranch wide.
- Improve forage quality and quantity for Pronghorn Antelope and Mule Deer.
- Improve antelope fawn survival by creating a further line of site to predators.
- Decrease soil erosion by impeding run off.
- (see Brush Management Plan pages 1 and 2 for more detail)

**PROJECT STRATEGIES:**

Juniper stands will be harvested by either Agra Ax or Cedar Eater.

Within the three sites to be harvested (see attached map) tree density averages 75 stems per acre. Sites within the three prescribed areas to be treated that contain stream bottoms for intermittent runoff will be left for cover and protection as well as slopes greater than 15% and areas of special concern. (see Brush Management Plan page 5 for detail)

**PROJECT LOCATION:**

This 876 acre project will occur on the Clear Creek Ranch which is an individual ranching unit of the Hopi Three Canyon Ranch. In general the Clear Creek Ranch is South of Winslow and runs along both sides of Hwy. 87 from Winslow to the United States Forest Service boundary on Hwy 87. Geographically the project location is on the South side of the West Sunset Mountain and specifically is in T. 17 North and R. 13 East

sections 22,23,26,27,28,29,30,31,and 32. (see attached map) Land ownership is both private and State of Arizona. This project is adjacent to the Bar T Bar Ranch where practices of the same nature and objectives occurred across our boundary fence. (see Brush Management Plan page 1 for more detail)

**LAND OWNERSHIP AT PROJECT SITE (Please state specifically if PRIVATE PROPERTY and provide landowner's name):**

This project will occur on private property of the Hopi Three Canyon Ranch as well as the State of Arizona. The ownership of lands is in a checkerboard fashion with even numbered sections being State Lands and the odd numbered sections being private land. This project follows the outline of the more dense corridors of Juniper stands and therefore property boundaries with in the ranch were not recognized for the purpose of this practice.

**IF PRIVATE PROPERTY, IS THERE A STEWARDSHIP AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?**

Yes. (see attached Stewardship Agreement)

**HABITAT DESCRIPTION:**

In the given area approximately 75% of it is covered with Juniper. The remaining 25%is open grassland. The Juniper stands range from scattered trees in the open to well over 75 stems per acre in the dense portions. In the more open areas grasses consist mainly of Galleta, Alkali Sacatone, Black and Blue Grama and Sand Dropseed. Forbs are mainly of Four Wing Salt Bush, Bigalow Sage, and Winter Fat. In the areas of heavier Juniper stands warm and cool season grasses are much less abundant and in a weakened state due to competition for soil moisture. Forbs would follow suit for these areas as well.

This area is home to a resident elk herd to a lesser degree in the summer months and to a greater degree during the winter months. Mule deer exist year round but in small numbers. Prong horn move in and out of the area year round.

**ITEMIZED USE OF FUNDS:**

876 Total Acres.

\$117,346.00 Total amount.

\$ 58,673.00 H3CR match.

\$ 58,673.00 NRCS match.

\$ 29,336.00 SBG funds requested.

\$ 29,336.00 Out of pocket cost to H3CR to fund project.

Please see the attached Conservation Plan Schedule of Operations for more detail.

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

H3CR – will act as it's own contractor.

Hopi Tribe – performing any arc. clearance that may be needed.

NRCS – cost share through EQIP.

AGFD – access agreement. (see attached agreement)

**PROJECT MONITORING PLAN:**

For many years monitoring plots have been read in and around where this project is located. The monitoring has been in conjunction with the NRCS and the FRSG (Forage Resource Study Group). From the years of historical data collected in the past this will be a great opportunity to measure any success or change from the out come of the project.

**PROJECT MAINTENANCE:**

Please see Brush Management Plan page 6.

**PROJECT COMPLETION REPORT TO BE FILED BY:**

6-30-09

**WATER DEVELOPMENT PROJECTS:**

While water development is not a part of this funding request there is a pipeline and watering facility practice that is proposed in the same area of the brush management project.

**TREE SHEARING (AGRA-AXE, PUSH) PROJECTS (see attached worksheet):**

## **ARIZONA GAME AND FISH DEPARTMENT**

### **TREE SHEARING WORKSHEET**

**PROJECT NAME:** West Clear Creek Brush Management Plan. \_\_\_\_\_

- 1) **What is the estimated acreage of the project?** 876 acres.
- 2) **How are the trees going to be cleared? (agra axe, chain saw, push):** Cedar Eater.
- 3) **What is the estimated number of trees per acre?** 75 stems per acre.
- 4) **Describe trees to be cleared (species, estimated diameter, single stem, multi-stem):**  
  
Juniper trees less than 12-20 inches in diameter cut at ground surface. Larger trees will be left  
For habitat.
- 5) **Describe terrain (slope, soil type, rocks, etc.)**  
  
Soils are sandy clay loam with Malapia rock and rock outcrop. Slopes varying from 0-8 %.
- 6) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument, etc). If private land, list landowner.**  
  
The ownership of lands to be treated are checkerboard with the Hopi Tribe owning the private sections and State of Arizona owning the fee land.
- 7) **Please provide the following information about access to the proposed site:**  
Type of access (mark one): ☒ 2x4 vehicles ☐ 4x4 only ☐ foot only\*\*  
\*\*If foot access only: Distance in miles:    Approx. hiking time:  
  
Does access to this site require crossing private or tribal lands? ☒ YES ☐ NO  
  
Is the site relatively accessible for tree shearing equipment? ☒ YES ☐ NO  
  
**Please describe any restrictions to public access:**  
Per the access agreement between AGFD and H3CR we have a sign in sign out system in place. Anyone wanting to access the ranch signs in at ranch HDQ. (see access agreement for more detail)



## **AMMENDED COOPERATIVE STEWARDSHIP AGREEMENT FOR RECREATIONAL ACCESS**

This AMMENDED COOPERATIVE STEWARDSHIP AGREEMENT (agreement) for recreational access is entered into this 1<sup>st</sup> day of October, 2006, between the Hart and Clear Creek Ranches (Hopi 3 Canyon Ranches LLC), Mr. Cedric Kuwaninvaya (Landowner) and the State of Arizona through the Arizona Game and Fish Commission (Commission) and its administrative agency the Arizona Game and Fish Department (Department), for the purpose of providing public recreational access through, upon, or across lands owned or legally controlled by Landowner as illustrated on Exhibit A attached hereto.

WHEREAS, said subject property contains recreational access routes as illustrated on Exhibit A necessary for roadway entry purposes to publicly held lands beyond, and no other public entity or agency owns or controls the necessary access point to those publicly held lands.

WHEREAS the parties agree that the goods or services provided by the Department will be used by Landowner for a public purpose as described herein, and that the benefit derived to the public as the result of such goods or services will equal or exceed the value of the goods or services,

NOW, THEREFORE, in consideration of mutual promises and other goods and valuable consideration contained herein, the Department and Landowner agree to implement a Cooperative Stewardship Agreement for Recreational Access to reduce or alleviate sportsmen/landowner conflicts on the subject property as set forth under the following terms and conditions:

### **A. The Arizona Game and Fish Department agrees:**

1. To provide funding to the Cooperator not to exceed \$20,000 to be used as a match for an USDA/ EQIP water development project that will provide perennial water for wildlife and livestock.
2. The payment for the materials and labor to complete the desired improvements described in the USDA/EQIP contract will be in two installments. One installment for \$10,000 will be provided after this agreement is signed. The second installment for \$10,000 will be provided after a review of the work completed.

### **B. The Landowner agrees:**

1. To allow recreational users access to the subject property as illustrated in Exhibit A commencing on February 20<sup>th</sup>, 2007 and remaining effective for 2 years (February 20<sup>th</sup>, 2009) unless otherwise terminated as provided in C.2. and C.3. herein.
2. To 1) comply with all USDA rules, regulations and procedures outlined in the Hopi 3 Canyons Ranch EQIP contract; and 2) The landowner will incur all labor, equipment, and material costs over and above those supplied by the Department through this agreement. The Cooperator is responsible for normal operation and maintenance of the habitat improvements after installation. Maintenance of these items is of the utmost importance and shall be carried out in a timely and workmanlike fashion as necessary. Repair of extensive damage to the habitat improvements caused by severe acts of nature or vandalism, are not included as normal operation and maintenance of the structures.
3. Should the property rights to the subject property be transferred to another party during the term of this agreement, the terms and conditions of this agreement will be transferred with the property to such other party unless terminated under conditions specified in paragraph C.2.

C. The Department and Landowner mutually agree:

1. To cooperate with each other and with the land management agency affected by this agreement to ensure that all participants successfully and satisfactorily fulfill their agreed upon commitments as set forth in this agreement.
2. That either party may terminate this agreement at any time with sixty (60) days written notice to the other party. Letters of cancellation must be sent by certified mail to the parties as follows:

a. If intended for the Commission, to:

Duane L. Shroufe, Director  
Arizona Game and Fish Department  
2221 West Greenway Road  
Phoenix, AZ 85023  
(602) 942-3000

b. If intended for Landowner, to:

The Hopi Tribe  
Attention: Tribal Chairman  
P.O. Box 123  
Kykotsmovi, AZ 86039  
(928) 734-3140 (phone)  
(928) 734-3149

3. Should this agreement be terminated prior to the expiration by the Landowner, the Department shall, at the option of the Landowner, be reimbursed by the Landowner for the expenses incurred by the Department pursuant to this agreement on a pro-rated basis for the remainder of the term of the agreement, or be allowed to retrieve all or part of the installed materials.
4. To review the terms and conditions within six (6) months prior to the expiration date of this present agreement, and determine whether or not to amend or extend this agreement for a specific period of time by written agreement, following a thirty (30) day written notification to amend.
5. That the access improvements placed on Landowner's property by the Department pursuant to Paragraph A above shall become the property of the Landowner two (2) year(s) after the date of the last signature below.
6. The Wildlife Manager stationed within the Department's Game Management Unit in which the project is located shall be the local Department representative regarding the operation of this access agreement.
7. That nothing in this agreement shall be construed as obligating the Department in any contract or other obligation for the future payment of money in excess of appropriations authorized by law.
8. Pursuant to A.R.S. 35-214, and 35-215, and Section 41-1279.04 as amended, all books, accounts, reports, files; and other records relating to the contract shall be subject at all reasonable times to inspection and audit by the State of Arizona for five (5) years after contract completion. Such records shall be reproduced as designated by the State of Arizona.

Stewardship  
10/16/2006

Page 3

9. All work done pursuant to this agreement must be in compliance with all applicable state and federal laws and regulations.
10. In the event that it applies, the parties agree to comply with the Governor's Executive Order No. 99-4 and 75-5, entitled "Prohibition of Discrimination in State Contracts - Non-Discrimination in Employment by Government Contractors and Subcontractors" and said non-discrimination orders are made a part of this agreement by reference.
11. To the extent required pursuant to A.R.S. 12-1518, and any successor statutes, the parties agree to use arbitration after exhausting all administrative remedies, to resolve any dispute arising out of this agreement.
12. All parties are hereby put on notice that this agreement is subject to cancellation pursuant to A.R.S. 38-511, cancellation of State contracts.
13. This agreement may be modified through mutual agreement of the Landowner and the Commission. Any modification made to this agreement shall be confirmed in writing prior to performance of the change.

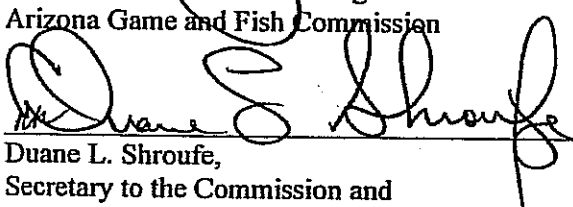
IN WITNESS WHEREOF, each person signing this agreement warrants that he/she has the capacity, full power, and authority to execute this agreement and consummate the transactions contemplated hereby on behalf of the parties herein.

APPROVED:

Landowner (Hopi Tribe Land Team Chairman)

APPROVED:

STATE OF ARIZONA through  
Arizona Game and Fish Commission

  
Duane L. Shroufe,  
Secretary to the Commission and  
Director, Arizona Game and Fish  
Department

11.30.06  
date

11/8/06  
date

U.S. Department of Agriculture : Flagstaff Field Office  
Natural Resources Conservation Service : 1585 South Plaza Way, Suite 120  
: Flagstaff, Arizona 86004

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**Clear Creek RANCH  
2006 BRUSH MANAGEMENT PLAN**

**Cooperator: Hopi Three Canyon Ranch LLC  
Assisted by: Gary Parrott, NRCS**

**Location**

The ranch is located south of Winslow, Arizona. The entire ranch encompasses approximately 151,600 acres. The ranch is composed of private land, and state leased land. The private is owned by the Hopi Tribe. A conservation plan for the ranch was completed in 2000. In 2005 and 2006 the operator of the ranch, Hopi Three Canyon Ranch LLC, was successful in obtaining EQIP cost sharing contracts on the ranch. The 2006 contract involves brush management and this is the plan governing it.

There are roughly 876 acres of possible treatment covered under this plan (see the Brush Management Plan map). On the map you will see three different areas where brush management will be done (called the west, middle, and east areas). The EQIP program has different average costs for different treatment methods. The ranch wanted to use mechanical treatment. In addition, under mechanical treatment, there are different average costs for treating stands with more than 75 trees per acre and stands with less than 75 trees per acre. The following table breaks down the acreage in the three identified areas.

	Less Than 75 Trees/ac.	More Than 75 Trees/ac.	Total	State	Private
West	262	87	349	184	165
Middle	157	105	262	108	154
East	132	133	265	66	199
Total	551	325	876	358	518

**Objective**

The objective of the brush reduction here is to increase herbaceous perennial cover and production to more closely

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resemble potential (and management objectives). This will tend to increase perennial cool season grass and forb production and cover on areas that are rangeland, where the percent composition of juniper is higher than that represented in the climax plant community for the site. Plant diversity is low here due to the sodlike growth form of blue grama, a native warm season grass. This blue grama community is a steady state in this area and will often take more than just prescribed grazing to transition toward potential.

#### **Target Species**

One seed juniper (*Juniperus monosperma*) and Utah juniper (*Juniperus osteosperma*) are the species to be targeted. These native trees have the ability to encroach into rangeland where its percent composition under natural disturbances is relatively low. The reasons for this encroachment of juniper into what used to be relatively treeless areas is probably not simple. It may include a reduced competition between herbaceous plants and juniper seedlings, or shifting climatic or CO<sub>2</sub> concentrations. Probably the most significant factor is the reduction of naturally occurring periodic fires.

On rangeland, juniper will be reduced with this brush management to a level consistent with its percent composition at climax. Its percent composition at climax for the range sites involved here is 5% or less of the community by weight of annual production.

Woodland sites will not be treated. These are sites that at climax have a significant amount of juniper and so are more cost effectively used for tree production. These are generally very rocky, shallow soils that have large diameter, older trees present. The 2000 Conservation Plan Map shows the percentage of the map units involved in the brush management that is woodland.

#### **Site Description**

During the resource inventory these pastures, as well as the other parts of the ranch, were mapped for rangeland ecological sites and their condition. The portion of the ranch involved in this brush management is located in Common Resource Area 35.1 which is the Colorado Plateau Mixed Grass Plains. These sites are in a 10-14" precipitation zone. See the initial stocking rate calculation in the conservation plan for a printout of range site acreage by pasture. See the condition write-up sheets for present vegetation.

### Treatment Method

The treatment method used in the brush management must be agreed upon by the cooperator, NRCS, and the state land department. Treatment methods can be varied depending upon the site and other management factors. However, since this treatment is cost shared it may be necessary to modify the contract if a different method is used. The treatment method should attempt to remove all juniper trees less than 12 - 20 inches in diameter at the ground surface. Trees larger than this should be left for habitat. The objective of reducing juniper composition to that of the climax for the site (less than 5% by weight of annual production) will probably be approximated.

The following are some treatment methods that are acceptable. Methods other than these may also be applicable and can be used with the approval of the NRCS.

#### Pushing -

Crawler or rubber tired tractors can be fitted with special push bars that push at the base of the tree separating the tree and a portion of the roots from the ground. If sufficient root mass is left underground while still attached to the trunk, the tree may continue to live. Therefore, it is important to completely separate the above ground tree from the roots left in the ground. Although some ground disturbance is beneficial for creating a seedbed, care should be taken not to overly disturb the ground. This can destroy existing perennial grasses and forbs and will lengthen the recovery period.

On steep areas, trees should be pushed so that they lay across the slope. This will slow down runoff and deposit sediment. Where active gullies are present, trees can be pushed into the gully to help control erosion. In most cases pushing juniper relatively long distances in order to pile or windrow them is discouraged. Leaving the carcass in place will produce a safe, favorable seedbed, allowing for faster recovery. Burning large piles of juniper, especially in the warmer times of the year, will produce enough heat to volatilize important organic matter and destroy microorganisms in the soil. Special cases may occur that require removing some of the carcasses and burning may be the best option. In these cases, further discussion will be needed to plan for time of year to burn, the size of piles, needed burning permits, etc.

#### Cutting -

Trees can be cut using chainsaws or with other mechanical shearing devices. Hydraulic shears mounted to rubber

tired tractors have been used in the area with good results. Much of this invasion juniper is not of much commercial value. If the wood could be sold, this would bring in some income while achieving the objective of removing the trees. Even allowing commercial fuelwood or fencepost cutters to take the wood for free might be an option to consider. Selling fuelwood or the removal of wood products at no charge is not allowed on state trust land.

If the wood, on private land, is being sold or given to fuelwood/fencepost cutters, or if an operator is using a tractor mounted shearing device, it will be necessary to give them direction. When cutting, the trees must be cut below the lowest branches, otherwise the tree may continue to survive. A chainsaw operator could be required to lop and scatter the branch slash over bare soil areas to provide a mulch to enhance seedling survival. They could also be required to cut small trees that they normally wouldn't take. Also see the "Cautions" section below.

#### Herbicide -

The use of herbicides may be an option to consider for the control of small trees. Its use on larger plants with their large root systems may not give desired results. It is very important that herbicides be applied as directed on the label. If this option is chosen expert guidance will need to be sought.

#### Prescribed Burning -

Much of the area with heavier juniper encroachment has little in the way of ground fuels to carry a fire. Without such fuels, broadcast burns become difficult, and burning trees individually becomes necessary. This becomes an expensive process. On the small areas where there are enough ground fuels this technique may be an option. Burning plans and permits will be necessary. If burning on state trust land, a permit will be necessary from the Arizona State Land Department and the Arizona Department of Environmental Quality.

#### Permits Required

It is the responsibility of the cooperator to obtain any permits that may be required. Brush management on state trust land requires an approved "Land Treatment Application" prior to beginning work. Plan on a minimum of 60 days for this approval process.

**Cautions**

Any treatment method that sufficiently disturbs the soil will require the NRCS to conduct cultural resource surveys on the private and prior to the brush management. Any sites found must have an approved plan to either (1) avoid their disturbance, (2) a determination that the site is not significant and so can be disturbed, or if significant (3) to be excavated prior to disturbance. Normal procedure would be to flag any site found and just plan to avoid it during the brush management. The site would be located on a map and its position discussed with the cooperator so that the site position is known.

If a cultural site is not identified during the resource survey and it is subsequently disturbed during the brush management, work needs to stop and timely notice given to the NRCS or ASLD (on state land).

During the cultural resource surveys, or during other site visits, areas of special concern may also be identified. These may include things like wildlife travel corridors or buffer strips along drainage's or surrounding waters that need to be left in juniper cover. These will be placed on a map and discussed with the cooperator so that their location is known. Due to their size, it may not be feasible to flag their perimeter.

Areas with slopes greater than about 15% should not be treated by methods that significantly disturb the soil surface. The intent here is to prevent excessive soil erosion.

Very rocky, shallow soils should not be treated by pushing. This will result in the roots pulling up large rocks, excessive soil disturbance, and a large proportion of the trees unable to be extracted from the soil. Most of these areas are actually woodlands and so are inappropriate for brush management anyway.

Brush management work should not be done when soils are wet.

**Benefits**

The main benefits resulting from the brush management are related to the restoration of perennial herbaceous cover to the sites. These benefits include increased plant and animal diversity, improved animal habitat, reduced water erosion, and improved water and nutrient cycling.

The restoration of perennial herbaceous vegetation will be most effective on those areas where present juniper canopy



cover is 30% or higher and the vegetative understory is lacking. The initial increase in herbaceous vegetation will most certainly be in the form of annual grasses and forbs. Excessive amounts of cool season annuals may compete against cool season perennial grasses and delay recovery. There is not much that can be done to prevent this short of using herbicides to prevent their growth. Preventing excessive soil disturbance and the resulting destruction of existing cool season grasses, and avoiding ground disturbance when soils are wet are good preventative practices.

Artificial seeding should not be needed to increase perennial herbaceous vegetation. Seed sources in the area along with proper seedbed forming practices should be enough to show results. The mechanical treatment methods should create enough soil disturbance to produce a seedbed. If a treatment method is selected that does not disturb the soil surface, some other method to create a seedbed should be considered. A relatively economical and effective method for producing a seedbed is through the use of livestock. By concentrating animals in the area of concern by the use of herding or attractants like salt or hay, the action of the animals hoofs will prepare the soil surface to create a seedbed.

#### **Post Treatment Needs**

To encourage perennial herbaceous species some livestock management techniques need to be followed. As mentioned earlier, the use of animals to create a seedbed may be needed at the time of brush management. If no successful perennial seedlings are coming in due to recapping of the soils, additional treatments with animals may be needed after the brush management as well.

If sufficient numbers of perennial herbaceous seedlings do become established, livestock grazing in that area needs to be deferred during their active growing season until those seedlings can establish a root system capable of withstanding grazing. This may not in fact be necessary if the only seedling establishment is under the protection of juniper carcasses. After one growing season of deferment the plants will be reevaluated to determine if another growing season of deferment will be beneficial.

One way that juniper reinvasion into the manipulated area will be reduced is by direct competition between established perennial herbaceous plants and the juniper seedlings. This in itself probably will not be enough to prevent juniper reinvasion. Naturally functioning sites also had the presence of fire to periodically eliminate successful young

trees. The establishment of a good perennial herbaceous cover may provide fuels for future prescribed burns that can be used as a tool to maintain juniper at climax levels.

#### Results

Brush Management treatment date: To be done by the end of the one year contract (September 2003).

Planned acres: 850      Applied acres:

Notes on degree of control:

#### Landowner's/Operator's Acknowledgement:

The landowner/operator acknowledges that:

- a. He/she has received a copy of the brush management plan, and that he/she has an understanding of the contents and the requirements.
- b. Maintenance of the installed work is necessary for proper performance for the life of the practice. For federal cost shared practices, this practice must be maintained for the expected life of the practice.

Duane Coleman (Hopi Three Canyon Ranch LLC) \_\_\_\_\_

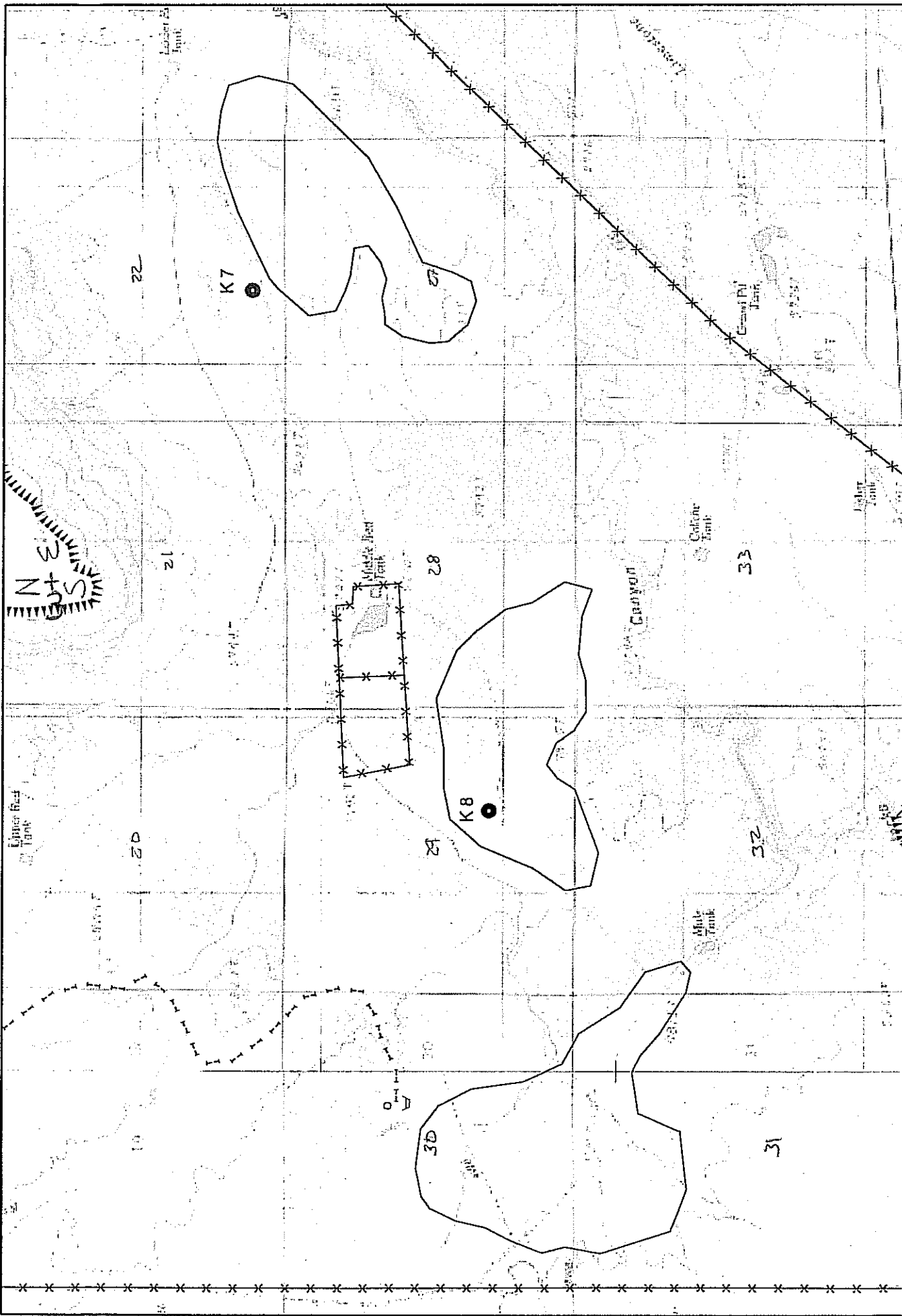
Arizona State Land Department

  
Kevin Eldredge \_\_\_\_\_

#### Practice Completion:

I have made an on site inspection of the site; and have determined that the job as installed does conform to the brush management plan.

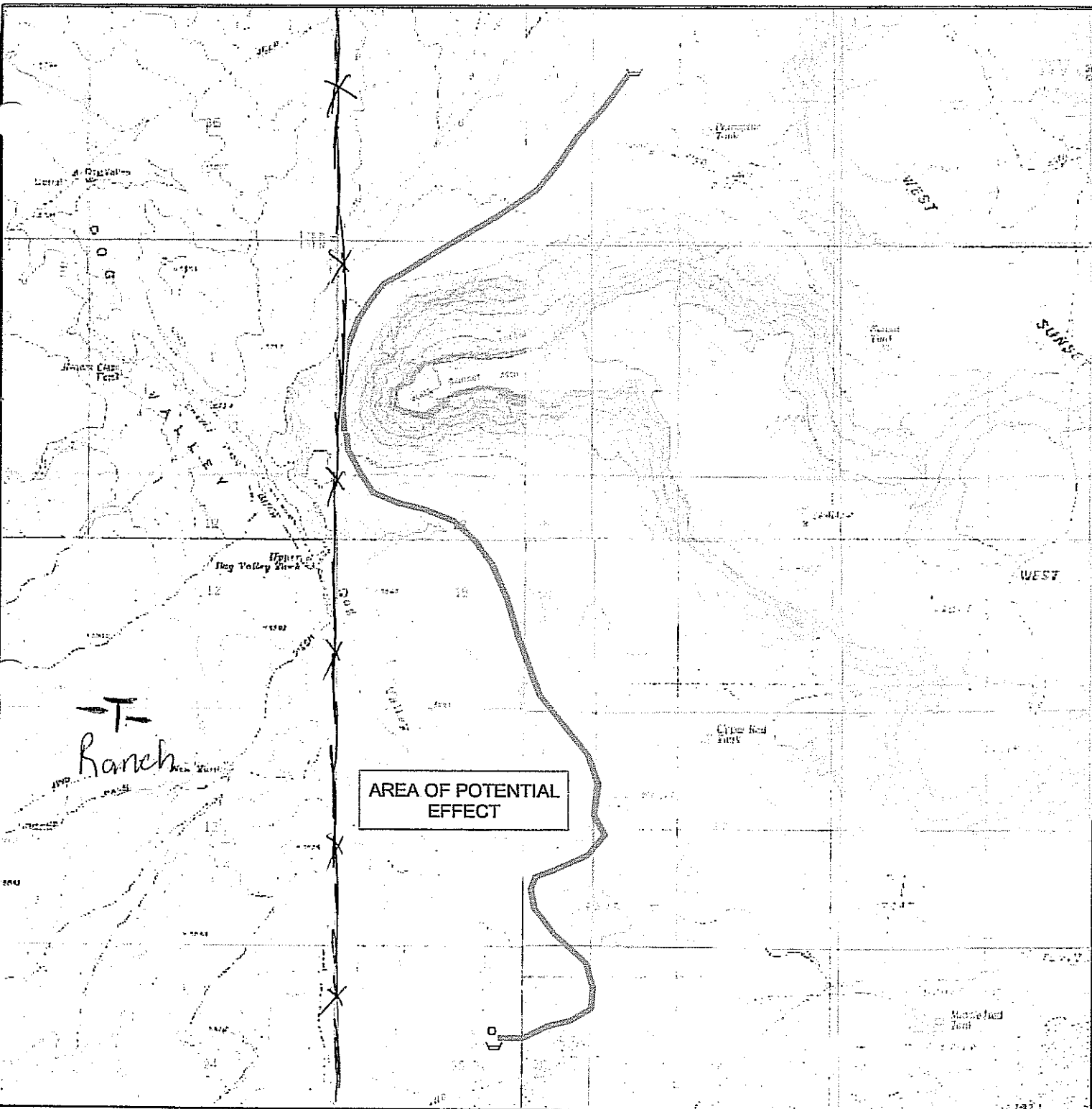
\_\_\_\_\_  
Gary Parrott, NRCS Rangeland Management Specialist



Brush Management Plan Map  
Clear Creek Ranch EQIP 2006  
March 2006

T. 17 N.  
R. 13 E.



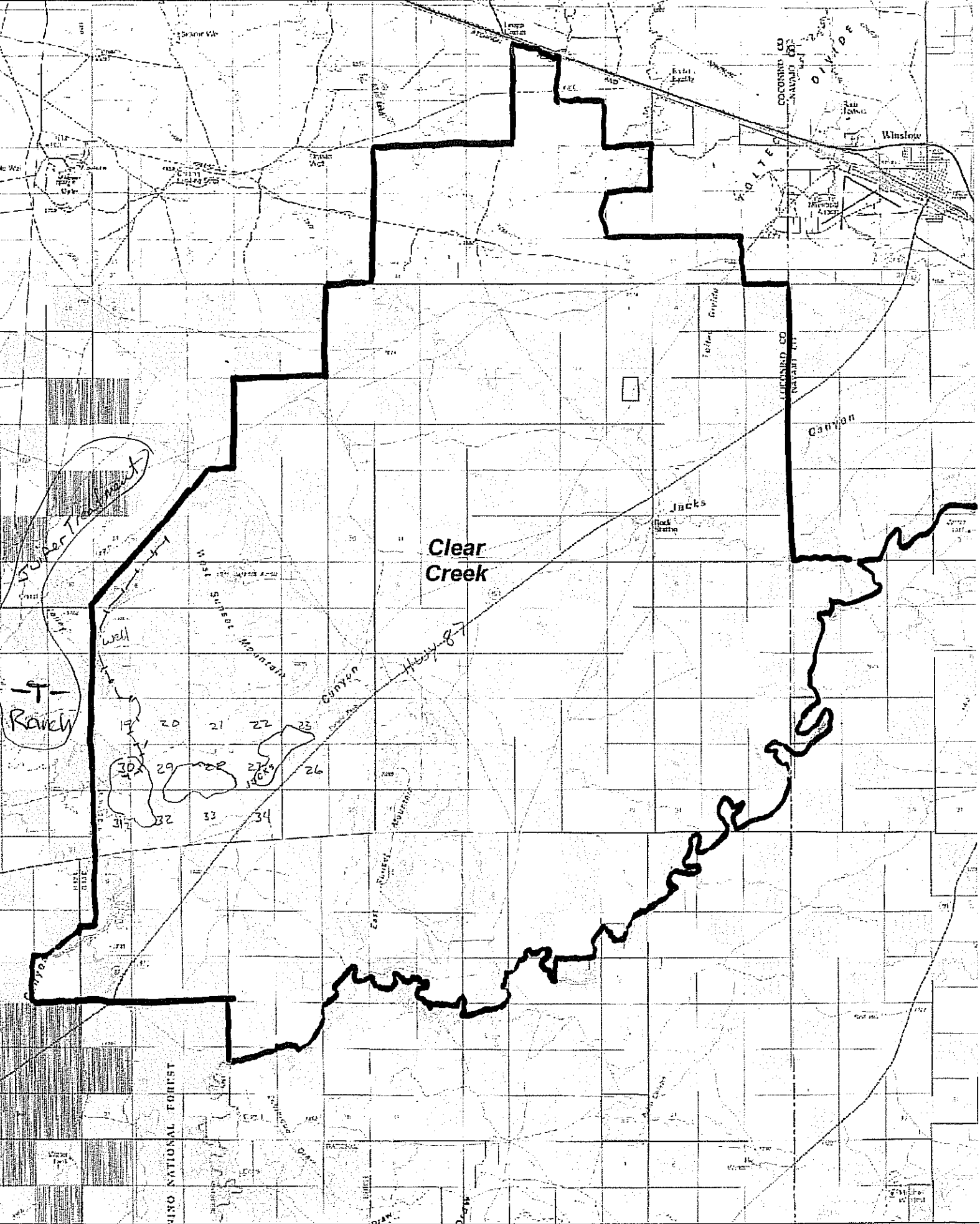


Area of Potential Effect  
 Clear Creek Ranch EQIP 2006  
 Sunset Well Pipeline  
 Sunset Pass, Az, Chavez Mtn East, Az  
 Chavez Mtn NE, AZ, and West Sunset Mtn, Az Quads  
 March 2006



1,600 0 1,600 3,200 4,800 6,400  
 Feet





Superstition Mountain

Clear Creek

Jacks

Hwy 87

Ranch

CCC-1200 12/2005	U.S. DEPARTMENT OF AGRICULTURE COMMODITY CREDIT CORPORATION	1. State & County Code 04005
CONSERVATION PROGRAM APPLICATION/CONTRACT		2a. Farm Number 1753
		b. Tract Number(s) 3115
		3. Contract Number: 749457/6A208
		4a. Primary Fund Code: Area 3 049999/2006
		b. Additional Fund Code(s):
		5. HUA Number: 1602008
		6. Total Treated Acres: 14018

8a. PERFORMANCE/PAYMENT SCHEDULED FOR CONTRACT

ITEM NO.	FIELD	TECHNICAL PRACTICE		Service Life	PLANNED AMOUNT (unit)	Cost/Unit Incentive Payment	COBT SHARE (%)	YEAR SCHEDULED				
		Code	Description					2006	2007	2008	2009	2010
1	Fields: 14	516	Pipeline	20	10,728.0 ft	\$2,600.00 /ft	50%	\$13,412				
2	Fields: 14	614	Watering Facility	10	1.0 acre	\$500.0000 /acre	50%	\$250				
3	Fields: 11	516	Pipeline	20	18,672.0 ft	\$2,600.00 /ft	50%		\$23,340			
4	Fields: 11	614	Watering Facility	10	1.0 acre	\$2,600.000 /acre	50%		\$1,250			
5	Fields: 11	614	Watering Facility	10	1.0 acre	\$500.0000 /acre	50%		\$250			
6	Fields: 11	314	Bruah Management 173979.99	10	262.0 ac	\$68.4122 /ac	50%			\$8,700		
7	Fields: 11	314	Bruah Management	10	262.0 ac	\$98.0000 /ac	50%			\$12,445		
8	Fields: 11	314	Bruah Management	10	157.0 ac	\$133.7580 /ac	50%			\$10,500		
9	Fields: 11	314	Bruah Management	10	157.0 ac	\$98.0000 /ac	50%			\$7,458		
10	Fields: 11	314	Bruah Management	10	133.0 ac	\$200.0000 /ac	50%			\$13,300		
11	Fields: 11	314	Bruah Management	10	133.0 ac	\$94.2857 /ac	50%			\$6,270		

Tot. Ac. 8774 550711.67

56672

CONSERVATION PLAN  
SCHEDULE OF OPERATIONS

Clear Creek Ranch

3. NAME HOPI THREE CANYON RANCH LLC		4. COUNTY COCONINO		5. STATE Arizona		6. CONTRACT OR AGREEMENT NO. 7494576A209		7. TOTAL ACRES UNDER CONTRACT									
ITEM NO.	FIELD	PLANNED CONSERVATION TREATMENT (Record of Decisions)	ESTIMATED AMOUNT (UNITS)	COST BASIS \$	COST SHARE OR PAYMENT RATE %	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR (For Non-Cost Share Items Show Unit)										REF. NO.	
						14	15	16	17	18	19	20	21	22	23		34
8	9	10	11	12	13	24	25	26	27	28	29	30	31	32	33	34	
A pipeline to convey livestock water from a WELL to a storage and/or trough. Used as a means to help distribute livestock or to facilitate a planned grazing system. Livestock: Beef																	
1a	Tract 0 Fields: 14; High Density PE	Pipeline(316) West Sunset Well	10729 Ft.	\$2,5000	\$13,412 24.82%	\$13,412	Pipeline to north										
Installation of a watering trough for livestock and wildlife. Used as a management tool to aid in the distribution of livestock or to facilitate a planned grazing system. Livestock: Beef																	
2a	Tract 0 Fields: 14; Trough, Prior Approved Used Steel	Watering Facility(614) West Sunset Well	1000 Gal.	\$0,5000	\$250 50%	\$250	Trough at end of north pipeline										
A pipeline to convey livestock water from a WELL to a storage and/or trough. Used as a means to help distribute livestock or to facilitate a planned grazing system. Livestock: Beef																	
3a	Tract 0 Fields: 11; High Density PE	Pipeline(316) West Sunset Well	18672 Ft.	\$23,000	\$23,340 50%AC	44,618	Pipeline to south										
Installation of a watering trough for livestock and wildlife. Used as a management tool to aid in the distribution of livestock or to facilitate a planned grazing system. Livestock: Beef																	
4a	Tract 0 Fields: 11; Storage Tank, Prior Approved Used Steel	Watering Facility(614) West Sunset Well	10000 Gal.	\$0,2500	\$1,250 50%AC	2500	Storage at end of south pipeline										
Installation of a watering trough for livestock and wildlife. Used as a management tool to aid in the distribution of livestock or to facilitate a planned grazing system. Livestock: Beef																	
5a	Tract 0 Fields: 11; Trough, Prior Approved Used Steel	Watering Facility(614) West Sunset Well	1000 Gal.	\$0,5000	\$250 50%AC	500	Trough at end of south pipeline										
The manipulation of targeted shrub species on rangeland as outlined in a specific brush management plan. The reduction in shrubs will be to a level consistent with the potential for the site. Livestock: Beef																	
6a	Tract 0 Fields: 11; Mechanical, More than 75 plants per acre	Brush Management(314)	252 ac	\$200,0000	Per Acre \$8,700 50%AC 17400	\$8,700	North west of Mule Tank										
The manipulation of targeted shrub species on rangeland as outlined in a specific brush management plan. The reduction in shrubs will be to a level consistent with the potential for the site. Livestock: Beef																	
7a	Tract 0 Fields: 11; Mechanical, Less than 75 plants per acre	Brush Management(314)	252 ac	\$12,445 24.90	\$12,445	North west of Mule Tank											